

BIBLIOGRAPHICAL NOTICES.

The Fauna of British India, including Ceylon and Burma. Published under the authority of the Secretary of State for India in Council. Edited by W. T. BLANFORD.—*Moths.* Vol. IV. By Sir G. F. HAMPSON, Bart.

THE present volume completes Sir George Hampson's revision of Indian Moths, the Tortrices, Tineina, and Plume-moths being alone excepted. It comprises an account of the species which represent the large family Pyralidæ in India, Ceylon, and Burma; and concludes with an Appendix of addenda and corrigenda, bringing the previous volumes up to date.

At one time the family Pyralidæ was represented by a group of so-called "mother-of-pearl" moths which constituted a mere fraction of the supposed tribe Pyralites, whilst other groups, popularly known as "grass-moths" or "honey-moths," were separated as families of the tribe Crambites. Now the whole of these insects are very properly merged into one family, all those previously recognized families which had been distinguished by good structural characters taking their places as subfamilies. Of the more typical Pyralidæ many are of remarkable beauty, whilst a great number are of considerable interest on account of the almost endless modifications of their various organs, together with the development, sometimes on one part and sometimes on another of their structure, of tufts or brushes of hair, patches of thickened scales, or clear impressed patches, most of these characters appearing to be confined chiefly, if not solely, to the males. Now, although all these secondary sexual characters are very entertaining to the student, they need examining with the greatest attention, inasmuch as not a few of the species scarcely differ one from the other excepting in the position or the colour of some insignificant pencil of hair on a leg or wing; and, seeing that Sir George Hampson has conscientiously and methodically studied each family, genus, and species, not only in general structure, but having a due regard to these peculiarities, it is a mystery how he can have produced the present volume so quickly after the publication of Volume III.

It must be remembered that most of the Pyralidæ are very small moths of somewhat complex structure, and, owing to the delicate texture of their wings, it is frequently by no means easy to examine the neuration; the use of benzine, to render the wing temporarily transparent, often causes it to fold or curl over in such a manner as to make a study of the veins impossible. If the species be a common one, a specimen (from no special locality) may be sacrificed, the wings being cleared of scales and mounted; but in the case of the rarer species the most careful study through a platyscopic lens is necessary.

Perhaps I am mistaken, but it has struck me in running through this volume that this very necessity for close examination into minute details in working out the species of Pyralidæ has had what most lepidopterists will consider a beneficent effect, in reducing the long strings of synonyms which are met with continually in the earlier volumes of the Moths. In Volume IV. they appear chiefly in the boldly marked groups, such as *Nymphula* in the *Hydrocampinæ*. However, in a work which will be an undoubted boon, not only to all collectors in the East, but to all living lepidopterists, it is hardly fair to criticize the author's views respecting the limits of species: if he concludes that the species of certain genera are subject to unlimited variation combined with very extensive geographical distribution, he has, by his unwearied industry, earned a full right to his opinions.

Taken as a whole, the four volumes of the Moths of India have, without question, been worked out in so masterly a manner and are so infinitely superior as text-books of families and genera to anything previously produced, that they must necessarily give a great impetus to the study of Heterocerous Lepidoptera.

A. G. BUTLER.

The Parasitic Diseases of Poultry. By FRED. V. THEOBALD, M.A., F.E.S. London: Gurney & Jackson, 1896. Pp. xv & 120.

THIS little book should prove useful not only to poultry-rearers but also to the scientist and veterinarian. It opens with an introductory chapter on parasites and parasitism in general, at the conclusion of which the author rightly insists on the importance of cleanliness and healthy surroundings for poultry—items too much neglected by the majority of poultry-keepers. For the purpose of description, the Parasites are divided into Animal and Vegetable; and the Animal Parasites are subdivided into (1) Protozoan Parasites, (2) Insect Parasites (fleas, lice, &c.), (3) Mite Parasites, and (4) Worm Parasites. These are again divided into their natural groups, and under each group the symptoms and appearances of the diseases, the parasites producing them, with their life-histories and mode of distribution, and the means of prevention and treatment, are fully dealt with. The last should be very valuable, especially as it is the outcome of the author's own experience; it would have been better, however, to have used the term "lime-washed" throughout, instead of, in most instances, the somewhat loose one, "whitewashed."

Commencing with Diphtheritic Roup, the opinion is expressed that though there may be three varieties of this affection, it is generally protozoan in nature. Its extreme contagiousness is certainly against this view, and such authorities as Cornil and Babes and Löffler favour the bacterial theory of its origin. On page 6 "Cornet" is evidently a misprint for "Cornil."